Bachelor of Computer Application (B.C.A.) (Semester–V) (CBS) Examination

COMPUTER GRAPHICS–I

Paper–1

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) **All** questions are compulsory and carry equal marks.

(2) Draw neat and labelled diagram wherever necessary.

1. **EITHER**

(a) Discuss application areas of Computer Graphics with suitable example. 5

(b) Explain Roster Scan display in detail. 5

OR

(c) Write short note on DVST. 5

(d) Explain types of Computer Graphics in term of interaction and non-interaction 5

2. **EITHER**

(a) Explain midpoint circle algorithm and write its steps in detail. 5

(b) Discuss Boundary fill algorithm with suitable example. 5

OR

(c) Explain DDA algorithm in detail. 5

(d) Discuss scanline polygon fill algorithm. 5

3. **EITHER**

(a) Describe requirement of homogeneous coordinates. 5

(b) What is sheer transformation ? Explain with suitable diagram. 5

OR

(c) Explain rotation for 2 dimensional image. 5

(d) Discuss process of reflection of an object in detail. 5

4. **EITHER**

(a) Explain viewport and windowing in detail. 5

(b) Explain Cohen Sutherland line clipping algorithm in detail. 5

OR

(c) Explain Cyrus backline clipping algorithm in detail. 5

(d) Discuss viewing pipeline in detail. 5

5. Attempt all :

(a) Write advantages and disadvantages of CRT. 2½

(b) What do you understand by the term “filled area” ? List various area filling techniques. 2½

(c) Find the matrix that represent rotation of an object by 30° about the origin. 2½

(d) Explain concept of point clipping. 2½